

=> d his

(FILE 'HOME' ENTERED AT 13:22:05 ON 14 NOV 2005)

FILE 'REGISTRY' ENTERED AT 13:22:13 ON 14 NOV 2005

L1 STRUCTURE UPLOADED

L2 1 S L1

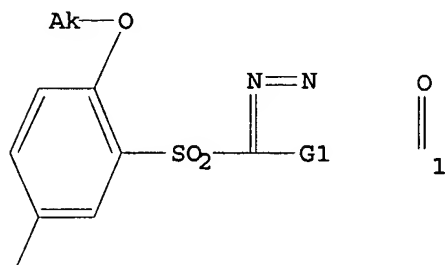
L3 5 S L1 FULL

FILE 'CAPLUS' ENTERED AT 13:23:07 ON 14 NOV 2005

L4 1 S L3

=> d que l4 stat

L1 STR



G1 SO2, [O1]

Structure attributes must be viewed using STN Express query preparation.

L3 5 SEA FILE=REGISTRY SSS FUL L1

L4 1 SEA FILE=CAPLUS ABB=ON PLU=ON L3

=> d ibib iabs hitstr

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:701845 CAPLUS

DOCUMENT NUMBER: 141:233204

TITLE: Novel sulfonyldiazomethanes, photoacid generators, resist compositions, and patterning process

INVENTOR(S): Ohsawa, Youichi; Kobayashi, Katsuhiko; Yanagi, Yoshitaka; Maeda, Kazunori

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 41 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004167322	A1	20040826	US 2004-776159	20040212
JP 2004244360	A2	20040902	JP 2003-35077	20030213
PRIORITY APPLN. INFO.:			JP 2003-35077	A 20030213

OTHER SOURCE(S): MARPAT 141:233204

ABSTRACT:

A chemical amplification type resist composition comprising a specific benzenesulfonyldiazomethane containing a long-chain alkoxyl group at the 2-position on benzene ring has many advantages including improved resolution, improved focus latitude, minimized line width variation or shape degradation even on long-term PED, minimized debris left after coating, development and peeling, and improved pattern profile after development and is thus suited for microfabrication.

IT 746652-33-5P 746652-37-9P 746652-38-0P  
746652-39-1P 746652-40-4P

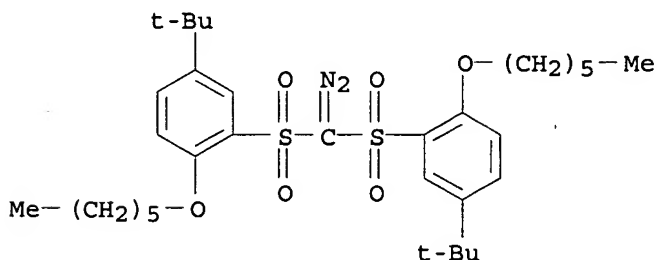
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);

PREP (Preparation); USES (Uses)

(sulfonyldiazomethane photoacid for resist compns.)

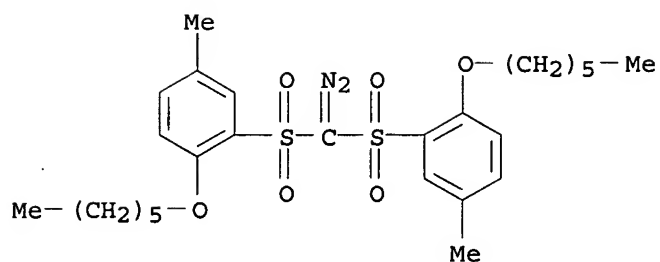
RN 746652-33-5 CAPLUS

CN Benzene, 1,1'-[(diazomethylene)disulfonyl]bis[5-(1,1-dimethylethyl)-2-(hexyloxy)- (9CI) (CA INDEX NAME)



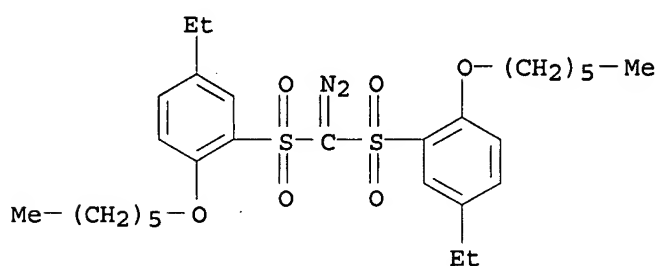
RN 746652-37-9 CAPLUS

CN Benzene, 1,1'-[(diazomethylene)disulfonyl]bis[2-(hexyloxy)-5-methyl- (9CI) (CA INDEX NAME)



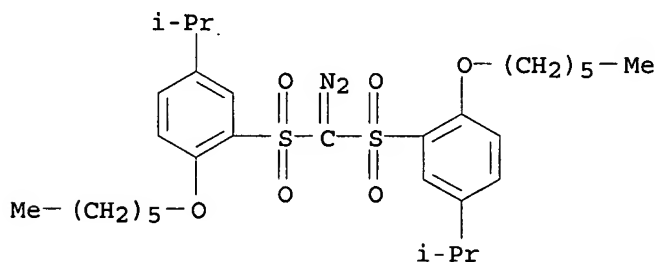
RN 746652-38-0 CAPLUS

CN Benzene, 1,1'-[(diazomethylene)disulfonyl]bis[5-ethyl-2-(hexyloxy)- (9CI)  
(CA INDEX NAME)



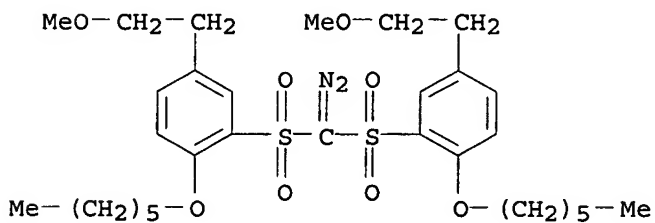
RN 746652-39-1 CAPLUS

CN Benzene, 1,1'-[(diazomethylene)disulfonyl]bis[2-(hexyloxy)-5-(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 746652-40-4 CAPLUS

CN Benzene, 1,1'-[(diazomethylene)disulfonyl]bis[2-(hexyloxy)-5-(2-methoxyethyl)- (9CI) (CA INDEX NAME)



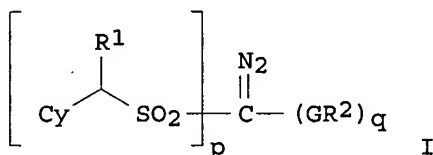
=> => d que l10 stat

L5	19	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	"OHSAWA YOUICHI"/AU
L6	55	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	"KOBAYASHI KATSUHIRO"/AU
L7	8	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	"YANAGI YOSHITAKA"/AU
L8	52	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	"MAEDA KAZUNORI"/AU
L9	118	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L5 OR L6 OR L7 OR L8
L10	14	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L9 AND (?DIAZOMETHANE OR DIAZOMETHANE)

=> d 1-14 bib abs

L10 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:182216 CAPLUS  
 DN 142:287807  
 TI Novel sulfonyldiazomethane compounds, photoacid generator,  
 resist materials and patterning process using the same  
 IN Kobayashi, Katsuhiko; Ohsawa, Youichi; Kinsho,  
 Takeshi; Fukuda, Eiji; Tanaka, Shigeo  
 PA Shin-Etsu Chemical Co., Ltd., Japan  
 SO U.S. Pat. Appl. Publ., 34 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005048395	A1	20050303	US 2004-929059	20040827
	JP 2005068117	A2	20050317	JP 2003-304060	20030828
PRAI	JP 2003-304060	A	20030828		
OS	MARPAT 142:287807				
GI					



AB Provided are sulfonyldiazomethane compds. and photoacid generators suited for resist materials which generate less foreign matters after application, development and peeling, and in particular, are excellent in the pattern profile after the development; and resist materials and patterning process using them. Provided are sulfonyldiazomethane compds. represented by formula I (R<sup>1</sup> = H, C1-6 alkyl; Cy = cyclohexyl, C1-6 alkyl, C1-6 alkoxy; R<sup>2</sup> = C1-10 alkyl, C6-14 aryl; p = 1, 2; q = 0, 1; p+q=2). Also provides are photoacid generators containing the sulfonyldiazomethane compds., and a chemical amplification resist material comprising (A) a resin which changes its solubility in an alkali developer by action of an acid, and (B) a sulfonyldiazomethane compound of formula I capable of generating an acid by exposure to radiation. Provided is a patterning process comprising steps of applying the above-described resist material onto a substrate to form a coating process, heating the coating process, exposing the coating process, and developing the exposed coating process in a developer after an optional heat treatment.

L10 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:701845 CAPLUS  
DN 141:233204  
TI Novel sulfonyldiazomethanes, photoacid generators, resist compositions,  
and patterning process  
IN Ohsawa, Youichi; Kobayashi, Katsuhiko; Yanagi,  
Yoshitaka; Maeda, Kazunori  
PA Japan  
SO U.S. Pat. Appl. Publ., 41 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2004167322	A1	20040826	US 2004-776159	20040212
	JP 2004244360	A2	20040902	JP 2003-35077	20030213
PRAI	JP 2003-35077	A	20030213		

OS MARPAT 141:233204

AB A chemical amplification type resist composition comprising a specific benzenesulfonyldiazomethane containing a long-chain alkoxyl group at the 2-position on benzene ring has many advantages including improved resolution, improved focus latitude, minimized line width variation or shape degradation even on long-term PED, minimized debris left after coating, development and peeling, and improved pattern profile after development and is thus suited for microfabrication.

L10 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:701689 CAPLUS  
DN 141:233196  
TI Sulfonyldiazomethanes for photoacid generators and resist patterning  
process  
IN Ohsawa, Youichi; Kobayashi, Katsuhiko; Yanagi,  
Yoshitaka; Maeda, Kazunori  
PA Japan  
SO U.S. Pat. Appl. Publ., 38 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2004166432	A1	20040826	US 2004-776291	20040212
	JP 2004244358	A2	20040902	JP 2003-35055	20030213
PRAI	JP 2003-35055	A	20030213		

OS MARPAT 141:233196

AB A chemical amplification type resist composition comprising a specific sulfonyldiazomethane containing long-chain alkoxyl groups has many advantages including improved resolution, improved focus latitude, minimized line width variation or shape degradation even on long-term PED, minimized debris left after coating, development and peeling, and improved pattern profile after development and is thus suited for microfabrication.

L10 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:142669 CAPLUS  
DN 140:207466  
TI Photoacid generators, chemically amplified positive resist compositions,  
and patterning process  
IN Maeda, Kazunori; Ohsawa, Youichi; Watanabe, Satoshi  
PA Japan  
SO U.S. Pat. Appl. Publ., 30 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2004033440	A1	20040219	US 2003-636654	20030808
	JP 2004133393	A2	20040430	JP 2003-205698	20030804
PRAI	JP 2002-233510	A	20020809		

OS MARPAT 140:207466

AB Photoacid generators capable of generating 2,4,6-triisopropylbenzenesulfonic acid upon exposure to actinic radiation are suited for use in chemical amplified pos. resist compns. Due to the low diffusion of 2,4,6-triisopropylbenzenesulfonic acid, the compns. have many advantages including improved resolution, improved focus latitude, and minimized line width variation or shape degradation even on long-term PED.



L10 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:142668 CAPLUS  
DN 140:207465  
TI Novel sulfonyldiazomethanes, photoacid generators, resist compositions, and  
patterning process  
IN Ohsawa, Youichi; Watanabe, Satoshi; Maeda, Kazunori  
PA Japan  
SO U.S. Pat. Appl. Publ., 31 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2004033432	A1	20040219	US 2003-636541	20030808
	JP 2004075542	A2	20040311	JP 2002-233523	20020809
PRAI	JP 2002-233523	A	20020809		
OS	MARPAT 140:207465				

AB Sulfonyldiazomethane compds. containing a long-chain alkyl- or  
alkoxy-naphthyl group are novel and useful as photoacid generators. Chemical  
amplification type resist compns. comprising the same are suited for  
microfabrication because of many advantages including improved resolution,  
improved focus latitude, and minimized line width variation or shape  
degradation even on long-term PED.

L10 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:20123 CAPLUS  
 DN 140:102018  
 TI Photoacid generators for chemically amplified resists and their use in  
 resists and pattern formation  
 IN Osawa, Yoichi; Kobayashi, Katsuhiko; Takemura, Katsuya;  
 Tsuchiya, Junji; Maeda, Kazuki  
 PA Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 76 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 2004004551	A2	20040108	JP 2003-27861	20030205
PRAI	JP 2002-80566	A	20020322		
OS	MARPAT 140:102018				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The photoacid generators are represented by I, pC(EWG):NOSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-rR'rOn(CH<sub>2</sub>)<sub>m</sub>Me, q[C(EWG):NOSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-rR'rOn(CH<sub>2</sub>)<sub>m</sub>Me]<sub>2</sub>, or II [R' = H, F, C<sub>1</sub>-4 alkyl, alkoxy; R = Cl, R'; n = 0, 1; m = 3-11; r = 0-4; EWG = cyano, nitro, C<sub>1</sub>-3 perfluoroalkyl; p = C<sub>1</sub>-10 alkyl, C<sub>6</sub>-12 aryl; q = C<sub>1</sub>-10 alkylene, C<sub>6</sub>-18 arylene; G', G'' = S, CH:CH; G' and G'' are not S at the same time; G = H, p; two G may form ring]. Alternatively, the photoacid generators are O-arylsulfonyloximes and generate long-chain alkylbenzenesulfonic acids or alkoxybenzenesulfonic acids of HO<sub>3</sub>SC<sub>6</sub>H<sub>4</sub>-rR'rOn(CH<sub>2</sub>)<sub>m</sub>Me (R', n, m, and r are same as above) under irradiation with UV, far-UV, electron beam, x-ray, excimer laser, γ-ray, or synchrotron radiation. The claimed chemical amplified (pos.) resists contain the above photoacid generators and resins changing solubility to alkali development solns. by acids. Patterns are formed by applying the resists on substrates, heating, exposing through photomasks by ≤300 nm-wavelength high-energy beams or electron beams, optionally heating, and developing with solns.

L10 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:950589 CAPLUS  
DN 140:21274  
TI Novel sulfonyldiazomethanes, photoacid generators, resist compositions,  
and patterning process  
IN Kobayashi, Katsuhiro; Ohsawa, Youichi; Hasegawa, Koji;  
Yoshihara, Takao; Maeda, Kazunori; Fujii, Toshihiko  
PA Shin-Etsu Chemical Co., Ltd., Japan  
SO U.S. Pat. Appl. Publ., 35 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

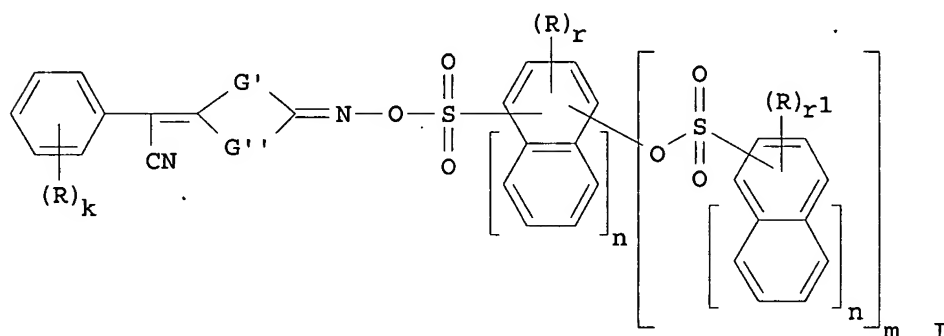
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2003224298	A1	20031204	US 2003-426623	20030501
	US 6713612	B2	20040330		
	JP 2004026809	A2	20040129	JP 2003-118155	20030423
PRAI	JP 2002-129681	A	20020501		

OS MARPAT 140:21274

AB Sulfonyldiazomethane compds. containing a long-chain alkylcyclohexyl group are novel and useful as photoacid generators. Chemical amplification type photoresist compns. comprising the same are suited for microfabrication because of many advantages including improved resolution, improved focus latitude, minimized line width variation or shape degradation even on long-term PED, minimized debris left after coating, development and peeling, and improved pattern profile after development.

L10 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:912695 CAPLUS  
 DN 139:401547  
 TI Photoacid generators and chemically amplified resist compositions for  
 patterning process  
 IN Ohsawa, Youichi; Kobayashi, Katsuhiko; Takemura,  
 Katsuya; Tsuchiya, Junji; Maeda, Kazunori  
 PA Shin-Etsu Chemical Co., Ltd., Japan  
 SO U.S. Pat. Appl. Publ., 49 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 1

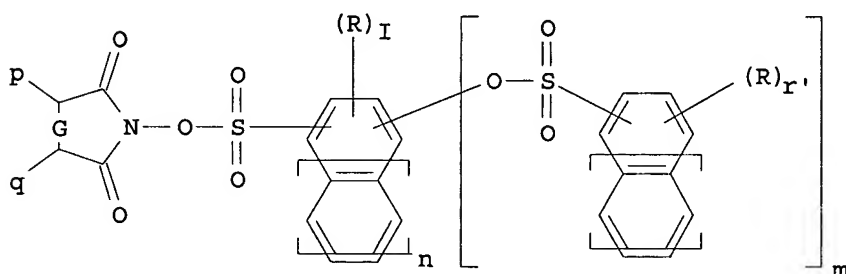
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003215738	A1	20031120	US 2003-393006	20030321
	US 6916591	B2	20050712		
	JP 2004004614	A2	20040108	JP 2003-71473	20030317
PRAI	JP 2002-80649	A	20020322		
OS	MARPAT 139:401547				
GI					



AB Photoacid generators are provided by O-arylsulfonyl-oxime compds. having general formula I (R = H, F, Cl, NO<sub>2</sub>, alkyl, alkoxy; n = 0, 1; m = 1, 2; r = 0-4; r1 = 0-5; k = 0-4; G1, G2 = S, -CH=CH-). Chemical amplified resist compns. comprising the photoacid generators have many advantages including improved resolution, improved focus latitude, minimized line width variation or shape degradation even on long-term PED, and improved pattern profile after development. Because of high resolution, the compns. are suited for microfabrication, especially by deep UV lithog.

L10 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:711621 CAPLUS  
 DN 139:252510  
 TI N-Sulfonyloxydicarboxyimide compounds for use as photo acid-generator in chemically amplified photoresists  
 IN Osawa, Yoichi; Kobayashi, Katsuhiko; Maeda, Kazunori; Miyakoshi, Hiroshi; Tanaka, Yoshio  
 PA Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 41 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003252855	A2	20030910	JP 2002-364254	20021216
PRAI	JP 2001-393194	A	20011226		
OS	MARPAT 139:252510				
GI					



I

AB N-Sulfonyloxydicarboxyimide compds. having general structure I is claimed to be used as photo acid-generator in chemical amplified photoresists (R = H, F, NO<sub>2</sub>, alkyl, alkoxy; n = 0, 1; m = 1, 2; r = 0-4, r' = 0-5; G = single or double bond; p, q = H, alkyl, or form alicyclic ring, heterocyclic ring, or aromatic ring). A chemical amplified photoresist containing the acid generator is also claimed.

L10 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:525404 CAPLUS  
 DN 139:92748  
 TI Novel sulfonyldiazomethane compounds, photoacid generators,  
 photoresists therewith, and photolithography employing the same  
 IN Osawa, Yoichi; Kobayashi, Katsuhiko; Maeda, Kazuki  
 PA Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 51 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003192665	A2	20030709	JP 2002-275029	20020920
	US 2003180653	A1	20030925	US 2002-255770	20020927
	US 6689530	B2	20040210		
PRAI	JP 2001-300345	A	20010928		

OS MARPAT 139:92748

AB The compds. are  $[[\text{Me}(\text{CH}_2)_m\text{On}]\text{RkC}_6\text{H}_5\text{-n-kSO}_2]\text{pC:N}_2(\text{GR}_3)_q$  [R = H, C1-4 alkyl(oxy); G = SO<sub>2</sub>, CO; R<sub>3</sub> = C1-10 alkyl, C6-14 aryl; p = 1, 2; q = 0, 1; p + q = 2; n = 0, 1; m = 3-11; k = 0-4]. Photoresists containing acid-labile alkali-developable resins and radiation-sensitive acid generators including the compds. are also claimed. Further claimed is photolithog. wherein the photoresists are applied on substrates, annealed, exposed to  $\leq 300\text{-nm}$  actinic rays or electron beams, (annealed,) and developed. The photoresists produce patterns containing min. number of foreign matter and having sharp profile.

L10 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:817219 CAPLUS

DN 135:350570

TI Chemically amplified positive resist compositions with improved resolution, pattern profile and focal latitude for deep UV lithography

IN Ohsawa, Youichi; Watanabe, Jun; Takeda, Takanobu; Seki, Akihiro

PA Shin-Etsu Chemical Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 33 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2001038971	A1	20011108	US 2001-799052	20010306
	US 6682869	B2	20040127		
	JP 2001324813	A2	20011122	JP 2001-57719	20010302
	TW 538312	B	20030621	TW 2001-90105205	20010306
PRAI	JP 2000-61350	A	20000307		

AB A chemical amplified, pos. resist composition is provided comprising (A) a photoacid generator and (B) a resin which changes its solubility in an alkali developer under the action of acid and has substituents of the formula:  $\text{Ph}-(\text{CH}_2)_n\text{OCH}(\text{CH}_2\text{CH}_3)-$  ( $n = 0, 1$ ). The composition has many advantages including improved focal latitude, improved resolution, minimized line width variation or shape degradation even on long-term PED, minimized defect left after coating, development and stripping, and improved pattern profile after development and is suited for microfabrication by any lithog., especially deep UV lithog.

L10 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:781404 CAPLUS

DN 135:336907

TI Chemically amplified positive resist compositions with improved resolution, pattern profile and focal latitude for deep UV lithography

IN Ohsawa, Youichi; Watanabe, Jun; Takeda, Takanobu; Seki, Akihiro

PA Shi-Etsu Chemical Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 34 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2001033994	A1	20011025	US 2001-799009	20010306
	US 6838224	B2	20050104		
	JP 2001324812	A2	20011122	JP 2001-57716	20010302
	TW 587086	B	20040511	TW 2001-90105203	20010306
PRAI	JP 2000-61357	A	20000307		

AB A chemical amplified, pos. resist composition is provided comprising (A) a photoacid generator and (B) a resin which changes its solubility in an alkali developer under the action of acid and has substituents of the formula: C<sub>6</sub>H<sub>11</sub> - (CH<sub>2</sub>)<sub>n</sub> OCH(CH<sub>2</sub>CH<sub>3</sub>) - wherein C<sub>6</sub>H<sub>11</sub> is cyclohexyl and n = 0,1. The composition has many advantages including improved focal latitude, improved resolution, minimized line width variation or shape degradation even on long-term

PED, minimized defect left after coating, development and stripping, and improved pattern profile after development and is suited for microfabrication by any lithog., especially deep UV lithog.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT



L10 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:336588 CAPLUS

DN 134:346467

TI Resist materials containing sulfonyldiazomethane photoacid generators and pattern formation using them

IN Maeda, Kazunori; Nagata, Takashi; Watanabe, Satoshi; Osawa, Yoichi; Watanabe, Atsushi; Nakura, Shigehiro

PA Shin-Etsu Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 51 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

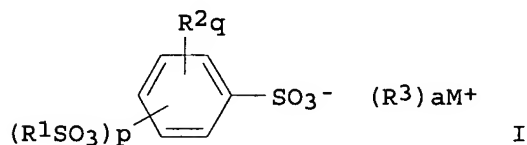
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 2001125258	A2	20010511	JP 2000-245566	20000814
	US 6338931	B1	20020115	US 2000-637595	20000815
PRAI	JP 1999-230143	A	19990816		

OS MARPAT 134:346467

AB The materials contain [(R1SO3)qR2pC6H5-p-qSO2]nC:N2(GR3)m or R1S(:O)2O-1,4-C6H4SO2C(:N2)SO2-1,4-C6H4OSO2R1 [R1, R3 = C1-10 normal, branched, or cyclic (un)substituted alkyl, C6-14 (un)substituted aryl; R2 = C1-6 normal, branched, or cyclic alkyl; G = SO2, CO; p = 0-4; q = 1-5; p + q = 1-5; n = 1, 2; m = 0, 1; n + n = 2] as photoacid generators. Patterns are formed by applying the resist materials on substrates, heating, exposing to ≤300-nm high-energy beam or electron beam through photomasks, optionally heating, and developing. The resist materials show good PED (post exposure delay) stability, high resolution, and good focus latitude and are useful for far-UV lithog.

L10 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:133716 CAPLUS  
 DN 134:200517  
 TI Novel onium salts as photoacid generators for resist compositions and  
 patterning process  
 IN Ohsawa, Youichi; Watanabe, Jun; Kusaki, Wataru; Watanabe,  
 Satoshi; Nagata, Takeshi; Nagura, Shigehiro  
 PA Shin-Etsu Chemical Co., Ltd., Japan  
 SO Eur. Pat. Appl., 77 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1077391	A1	20010221	EP 2000-306997	20000816
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001122850	A2	20010508	JP 2000-245564	20000814
	US 6440634	B1	20020827	US 2000-637363	20000815
	TW 536549	B	20030611	TW 2000-89116464	20000815
PRAI	JP 1999-230122	A	19990816		
	JP 1999-230126	A	19990816		
OS	MARPAT 134:200517				
GI					



AB Disclosed is a chemical amplification type resist composition that comprises  
 as a  
 photoacid generator novel onium salts of the formula I (R1 = C1-10 alkyl,  
 C6-14 aryl; R2 = H, C1-6 alkyl; p = 1-5, q = 0-4, p+q = 5; R3 = C1-10  
 alkyl, C6-14 aryl; M = S, I; a = 3 when M=S, 2 when M=I). The chemical  
 amplification type resist comprising the onium salt as a photoacid  
 generator is suited for microfabrication, especially by deep UV lithog. and has  
 many advantages including improved resolution, minimized line width variation  
 or shape degradation even on long-term post-exposure delay, minimized defect  
 after coating, development and stripping, and improved pattern profile  
 after development.  
 RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his full

(FILE 'HOME' ENTERED AT 13:22:05 ON 14 NOV 2005)

FILE 'REGISTRY' ENTERED AT 13:22:13 ON 14 NOV 2005

L1 STRUCTURE UPLOADED

D

L2 1 SEA SSS SAM L1

D SCAN

L3 5 SEA SSS FUL L1

FILE 'CAPLUS' ENTERED AT 13:23:07 ON 14 NOV 2005

L4 1 SEA ABB=ON PLU=ON L3

D QUE L4 STAT

D IBIB IABS HITSTR

E OHSAWA YOUICHI/AU

L5 19 SEA ABB=ON PLU=ON "OHSAWA YOUICHI"/AU

E KOBAYASHI KATSUHIRO/AU

L6 55 SEA ABB=ON PLU=ON "KOBAYASHI KATSUHIRO"/AU

E YANAGI YOSHITAKA/AU

L7 8 SEA ABB=ON PLU=ON "YANAGI YOSHITAKA"/AU

E MAEDA KAZUNORI/AU

L8 52 SEA ABB=ON PLU=ON "MAEDA KAZUNORI"/AU

L9 118 SEA ABB=ON PLU=ON L5 OR L6 OR L7 OR L8

L10 14 SEA ABB=ON PLU=ON L9 AND (?DIAZOMETHANE OR DIAZOMETHANE)

D QUE L10 STAT

D 1-14 BIB ABS

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 NOV 2005 HIGHEST RN 867336-65-0

DICTIONARY FILE UPDATES: 13 NOV 2005 HIGHEST RN 867336-65-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*

\*

\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*

\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

## FILE CAPLUS

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 14 Nov 2005 VOL 143 ISS 21  
FILE LAST UPDATED: 13 Nov 2005 (20051113/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=>